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10/658,614	09/10/2003	Boris Ginzburg	P-5911-US	2528

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EXAMINER	
GOETZE, SIMON A	
ART UNIT	**PAPER NUMBER**
2617	
MAIL DATE	**DELIVERY MODE**
09/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/658,614	GINZBURG ET AL.	
	Examiner	Art Unit	
	Simon A. Goetze	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 June 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

This Action is in response to Applicant's amendment filed on June 14, 2007. Claims 1-33 are still pending in the application.

Claim Objections

1. **Claim 32** is objected to because of the following informalities: dependency is claimed from claim 30, but claim 32 falls under claim 31. For the purposes of this examination, claim 32 is understood as depending from claim 31. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. **Claims 1, 9, 19, 22, 25, and 31** are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The second error rate carries no bearing over the adjustment decision (i.e. the comparison of the second error rate with the first error rate is not utilized).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. **Claims 1-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fischer et al. (US Patent 5,889,772)** in view of **Diener (US Patent Application Publication 2004/0047324)**.

Consider **claim 1**, Fischer et al. discloses a method comprising:

comparing a first bit error rate for transmissions without request to send protection and comparing a bit packet error rate for transmissions with request to send protection *(Column 4, Lines 52-60; Column 8, Lines 36-52; Column 9, Lines 25-45 and 55-67; Column 10, Lines 16-23)*; and

adjusting transmission parameters if said first bit error rate is not attributable to collisions *(read as adjustment is made if noise is the contributing factor to bit error rate – Column 11, Lines 21-41; Column 12, Lines 7-20)*.

However, Fischer et al. discloses dynamically adjusting thresholds for data transmissions for each respective destination, but this decision is based on bit error rate, not packet error rate.

In related prior art, Diener discloses adjusting transmission parameters in a system utilizing request to send protection based upon packet error rate *(Abstract; Page 15, Paragraph 0205)*.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate the teachings of Diener with those of Fischer et al. in order to more accurately adjust parameters and increase quality throughput of wireless local area networks.

However, Fischer et al. as modified by Diener fails to specifically disclose the comparison of the first error rate with the second error rate.

Nonetheless, the Examiner takes Official Notice that a person having ordinary skill in the art at the time the invention was made could compare the two error rates calculated by Fischer et al.. Additionally, in view of the 112 2nd rejection, the result of this comparison is not used to come to any conclusions for adjusting communication.

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to conclude from Fischer et al. as modified by Diener to compare the calculated error rates as a means for accurately adjusting communication parameters.

Consider **claim 2**, as applied to claim 1 above, Fischer et al. as modified by Diener discloses setting said request to send protection to a predefined upper limit *(Column 8, Lines 9-20)*.

Consider **claim 3**, as applied to claim 2 above, Fischer et al. as modified by Diener discloses reducing said predefined upper limit of said request to send protection if transmitting with said predefined upper limit causes packet error rates attributable to collisions *(Column 8, Lines 9-20; Column 10, Lines 25-45)*.

Consider **claim 4**, as applied to claim 1 above, Fischer et al. as modified by Diener discloses:

collecting a packet error rate of request to send packets *(Column 11, Lines 21-41)*; and

collecting a packet error rate of data frames transmitted with request to send protection *(Column 11, Lines 21-41)*.

Consider **claim 5**, as applied to claim 1 above, Fischer et al. as modified by Diener discloses adjusting a data rate if said first packet error rate is not attributable to collisions *(adjusting fragmentation would ultimately adjust data rate – Column 12, Lines 7-30)*.

Consider **claim 6**, as applied to claim 1 above, Fischer et al. as modified by Diener discloses activating fragmentation if said first packet error rate is not attributable to collisions *(Column 12, Lines 7-30)*.

Consider **claim 7**, as applied to claim 1 above, Fischer et al. as modified by Diener discloses:

collecting a packet error rate of frames transmitted without said request to send protection *(Column 9, Lines 36-45)*; and

collecting a packet error rate of frames transmitted with said request to send protection *(Column 11, Lines 21-41)*.

Consider **claim 8**, as applied to claim 1 above, Fischer et al. as modified by Diener discloses deactivating said request to send protection if said first packet error rate is not attributable to collisions *(Column 10, Lines 25-45)*.

Consider **claim 9**, Fischer et al. discloses a method comprising:

activating request to send protection *(Column 8, Lines 9-19)*;

calculating a first bit error rate of request to send frames *(Column 4, Lines 52-60; Column 8, Lines 36-52; Column 9, Lines 25-45 and 55-67; Column 10, Lines 16-23)*;

calculating a second bit error rate of data frames sent under request to send protection *(Column 11, Lines 21-41)*; and

adjusting request to send protection if said first bit error rate is below a collision rate threshold *(Column 10, Lines 25-45)*.

However, Fischer et al. discloses dynamically adjusting thresholds for data transmissions for each respective destination, but this decision is based on bit error rate, not packet error rate.

In related prior art, Diener discloses adjusting transmission parameters in a system utilizing request to send protection based upon packet error rate *(Abstract; Page 15, Paragraph 0205)*.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate the teachings of Diener with those of Fischer et al. in order to more accurately adjust parameters and increase quality throughput of wireless local area networks.

Consider **claim 10**, as applied to claim 9 above, Fischer et al.. as modified by Diener discloses that said activating request to send protection comprises setting request to send protection to predefined upper limit *(Column 8, Lines 9-20)*.

Consider **claim 11**, as applied to claim 9 above, Fischer et al. as modified by Diener discloses adjusting a transmission parameter according to said second packet error rate if said first packet error rate is below a collision rate threshold *(Column 10, Lines 16-45; Column 11, Lines 21-41; Column 12, Lines 7-20)*.

Consider **claim 12**, as applied to claim 11 above, Fischer et al. as modified by Diener discloses:

determining whether transmission quality is above a transmission quality threshold *(Column 11, Lines 21-33)*; and

increasing a data rate *(adjusting fragmentation would ultimately adjust data rate – Column 12, Lines 7-30)*.

Consider **claim 13**, as applied to claim 12 above, Fischer et al. as modified by Diener discloses:

determining whether a transmission quality is below a transmission quality threshold *(Column 11, Lines 21-33)*; and

decreasing a data rate *(adjusting fragmentation would ultimately adjust data rate – Column 12, Lines 7-30)*.

Consider **claim 14**, as applied to claim 11 above, Fischer et al. as modified by Diener discloses that said adjusting a transmission parameter comprises adjusting a data rate *(adjusting fragmentation would ultimately adjust data rate – Column 12, Lines 7-30)*.

Consider **claim 15**, as applied to claim 11 above, Fischer et al. as modified by Diener discloses that said adjusting a transmission parameter comprises adjusting fragmentation *(Column 12, Lines 7-30)*.

Consider **claim 16**, as applied to claim 9 above, Fischer et al. as modified by Diener discloses that said adjusting request to send protection comprises deactivating said request to send protection *(Column 10, Lines 25-45)*.

Consider **claim 17**, as applied to claim 9 above, Fischer et al. as modified by Diener discloses:

calculating a third packet error rate for data frames sent without request to send protection *(Column 9, Lines 36-45)*;

deriving a fourth packet error rate attributable to noise *Column 11, Lines 21-41; Column 12, Lines 7-20)*; and

adjusting a transmission parameter based on said fourth packet error rate *(Column 12, Lines 7-30)*.

Consider **claim 18**, as applied to claim 17 above, the combination of Fischer et al. as modified by Diener further discloses that deriving said fourth packet error rate attributable to noise comprises dividing the result of a fifth packet error rate of transmissions without request to send protection minus said first packet error rate of request to send frames, by, one minus said first packet error rate of request to send frames.

Consider **claim 19**, Fischer et al. discloses an article comprising a storage medium having stored thereon instructions that, when executed by a processor, result in:

comparing a first bit error rate of transmissions without request to send protection with a second bit error rate of transmissions with request to send protection *(Column 4, Lines 52-60; Column 8, Lines 36-52; Column 9, Lines 25-45 and 55-67; Column 10, Lines 16-23)*; and

adjusting a data rate if said first bit error rate is not due to collisions *(read as adjustment is made if noise is the contributing factor to bit error rate – Column 11, Lines 21-41; Column 12, Lines 7-20)*.

However, Fischer et al. discloses dynamically adjusting thresholds for data transmissions for each respective destination, but this decision is based on bit error rate, not packet error rate.

In related prior art, Diener discloses adjusting transmission parameters in a system utilizing request to send protection based upon packet error rate *(Abstract; Page 15, Paragraph 0205)*.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate the teachings of Diener with those of Fischer et al. in order to more accurately adjust parameters and increase quality throughput of wireless local area networks.

However, Fischer et al. as modified by Diener fails to specifically disclose the comparison of the first error rate with the second error rate.

Nonetheless, the Examiner takes Official Notice that a person having ordinary skill in the art at the time the invention was made could compare the two error rates calculated by Fischer et al.. Additionally, in view of the 112 2nd rejection, the result of this comparison is not used to come to any conclusions for adjusting communication.

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to conclude from Fischer et al. as modified by Diener to compare the calculated error rates as a means for accurately adjusting communication parameters.

Consider **claim 20**, as applied to claim 19 above, Fischer et al. as modified by Diener discloses that said instructions further result in setting said request to send protection to a maximal level *(Column 8, Lines 9-20)*.

Consider **claim 21**, as applied to claim 19 above, Fischer et al. as modified by Diener discloses that said instructions further result in adjusting a fragmentation size if said first packet error rate is not due to collisions *(Column 12, Lines 7-30)*.

Consider **claim 22**, Fischer et al. discloses a communication device comprising:

a dipole antenna to transmit frames *(part of the wireless communication devices and wireless local area network access points)*;

a comparator to compare a first bit error rate of transmissions without request to send protection with a second bit error rate for transmissions with request to send protection *(Column 4, Lines 52-60; Column 8, Lines 36-52; Column 9, Lines 25-45 and 55-67; Column 10, Lines 16-23)*; and

an adjustor to adjust a data rate if said first bit error rate is not due to collisions *(read as adjustment is made if noise is the contributing factor to bit error rate – Column 11, Lines 21-41; Column 12, Lines 7-20)*.

However, Fischer et al. discloses dynamically adjusting thresholds for data transmissions for each respective destination, but this decision is based on bit error rate, not packet error rate.

In related prior art, Diener discloses adjusting transmission parameters in a system utilizing request to send protection based upon packet error rate *(Abstract; Page 15, Paragraph 0205)*.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate the teachings of Diener with those of Fischer et al. in order to

more accurately adjust parameters and increase quality throughput of wireless local area networks.

However, Fischer et al. as modified by Diener fails to specifically disclose the comparison of the first error rate with the second error rate.

Nonetheless, the Examiner takes Official Notice that a person having ordinary skill in the art at the time the invention was made could compare the two error rates calculated by Fischer et al.. Additionally, in view of the 112 2nd rejection, the result of this comparison is not used to come to any conclusions for adjusting communication.

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to conclude from Fischer et al. as modified by Diener to compare the calculated error rates as a means for accurately adjusting communication parameters.

Consider **claim 23**, as applied to claim 22 above, Fischer et al. as modified by Diener discloses that said adjustor is to adjust a fragmentation if said first packet error rate is not due to collisions *(Column 8, Lines 9-20)*.

Consider **claim 24**, as applied to claim 22 above, Fischer et al. as modified by Diener discloses that said adjustor is to adjust request to send protection levels if said first packet error rate is due to collisions *(Column 12, Lines 7-30)*.

Consider **claim 25**, Fischer et al. discloses a device comprising:

a comparator to compare a first bit error rate for transmissions without request to send protection with a second bit error rate for transmissions with request to send protection *(Column*

4, Lines 52-60; Column 8, Lines 36-52; Column 9, Lines 25-45 and 55-67; Column 10, Lines 16-23); and

an adjustor to adjust a data rate if said first bit error rate is not due to collisions *(read as adjustment is made if noise is the contributing factor to bit error rate – Column 11, Lines 21-41; Column 12, Lines 7-20)*.

However, Fischer et al. discloses dynamically adjusting thresholds for data transmissions for each respective destination, but this decision is based on bit error rate, not packet error rate.

In related prior art, Diener discloses adjusting transmission parameters in a system utilizing request to send protection based upon packet error rate *(Abstract; Page 15, Paragraph 0205)*.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate the teachings of Diener with those of Fischer et al. in order to more accurately adjust parameters and increase quality throughput of wireless local area networks.

However, Fischer et al. as modified by Diener fails to specifically disclose the comparison of the first error rate with the second error rate.

Nonetheless, the Examiner takes Official Notice that a person having ordinary skill in the art at the time the invention was made could compare the two error rates calculated by Fischer et al.. Additionally, in view of the 112 2nd rejection, the result of this comparison is not used to come to any conclusions for adjusting communication.

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to conclude from Fischer et al. as modified by Diener to compare the calculated error rates as a means for accurately adjusting communication parameters.

Consider **claim 26**, as applied to claim 25 above, Fischer et al. as modified by Diener discloses that said adjustor sets said request to send protection to a maximal level *(Column 8, Lines 9-20)*.

Consider **claim 27**, as applied to claim 26 above, Fischer et al. as modified by Diener discloses that said adjustor reduces said level of said request to send protection if transmitting with said maximal level causes packet error rates attributable to collisions *(Column 8, Lines 9-20; Column 10, Lines 25-45)*.

Consider **claim 28**, as applied to claim 25 above, Fischer et al. as modified by Diener discloses that said comparator is to:

collect a packet error rate for request to send packets *(Column 11, Lines 21-41)*; and

collect a packet error rate for data frames transmitted with request to send protection *(Column 11, Lines 21-41)*.

Consider **claim 29**, as applied to claim 25 above, Fischer et al. as modified by Diener discloses that said adjustor is to adjust a data rate if said first packet error rate is not attributable to collisions *(adjusting fragmentation would ultimately adjust data rate – Column 12, Lines 7-30)*.

Consider **claim 30**, as applied to claim 25 above, Fischer et al. as modified by Diener discloses that said adjustor is to activate fragmentation if said first packet error rate is not attributable to collisions *(Column 12, Lines 7-30)*.

Consider **claim 31**, Fischer et al. discloses a communication system comprising:

a station *(Abstract – Figures 1-3 – Column 4, Lines 52-60; Column 8, Lines 36-52)*;

an access point *(Abstract – Figures 1-3 – Column 7, Lines 29-46)*;

a comparator to compare a first bit error rate for transmissions without request to send protection with a second bit error rate for transmissions with request to send protection *(Column 4, Lines 52-60; Column 8, Lines 36-52; Column 9, Lines 25-45 and 55-67; Column 10, Lines 16-23)*; and

an adjustor to adjust a data rate if said first packet error rate is not due to collisions *(read as adjustment is made if noise is the contributing factor to bit error rate – Column 11, Lines 21-41; Column 12, Lines 7-20)*.

However, Fischer et al. discloses dynamically adjusting thresholds for data transmissions for each respective destination, but this decision is based on bit error rate, not packet error rate.

In related prior art, Diener discloses adjusting transmission parameters in a system utilizing request to send protection based upon packet error rate *(Abstract; Page 15, Paragraph 0205)*.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate the teachings of Diener with those of Fischer et al. in order to

more accurately adjust parameters and increase quality throughput of wireless local area networks.

However, Fischer et al. as modified by Diener fails to specifically disclose the comparison of the first error rate with the second error rate.

Nonetheless, the Examiner takes Official Notice that a person having ordinary skill in the art at the time the invention was made could compare the two error rates calculated by Fischer et al.. Additionally, in view of the 112 2nd rejection, the result of this comparison is not used to come to any conclusions for adjusting communication.

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to conclude from Fischer et al. as modified by Diener to compare the calculated error rates as a means for accurately adjusting communication parameters.

Consider **claim 32**, as applied to claim 31 above, Fischer et al. as modified by Diener discloses that said adjustor sets said request to send protection to an elevated level *(Column 8, Lines 9-20)*.

Consider **claim 33**, as applied to claim 32 above, Fischer et al. as modified by Diener discloses that said adjustor reduces said level of said request to send protection if transmitting with said elevated level causes packet error rates attributable to collisions *(Column 8, Lines 9-20; Column 10, Lines 25-45)*.

Response to Arguments

Applicant's arguments with respect to **claims 1, 19, 22, 25, and 31** have been considered but are moot in view of the new ground(s) of rejection.

Regarding **claim 9**, Fischer et al. discloses that the adjusting request to send protection is adjusted if the bit error rate is below a collision threshold because if there are more collisions, the proportion of the attempts versus the fails changes, and therefore an adjustment is made to the RTS/CTS threshold. The calculation of the proportion itself functions as a threshold.

Conclusion

1. Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

2. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Simon A. Goetze whose telephone number is (571) 270-1113. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm and Friday from 7:30am to 4:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Simon A. Goetze
S.A.G./sag

September 17, 2007

Rafael Perez-Gutierrez
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9/17/7